We claim:

1. A heat pipe comprising:
a pipe having two ends, an exterior surface defining an interior space of said pipe;
a plurality of particle structures on said exterior surface; and
a material within said pipe capable of convective heat transfer .

2. The heat pipe of claim 1, further comprising a thermal conductor between said pipe and said particle structure.

3. The heat pipe of claim 1, further comprising:
a wick; and
a liquid for transferring heat from one end of said pipe to another end of said pipe.

4. The heat pipe of claim 1, wherein said particle structure is a fractal structure.

5. The heat pipe of claim 1, wherein said particle structure is a nested particle structure.

6. The heat pipe of claim 1, wherein said particle structure comprises particles and chemical linkers.

7. The heat pipe of claim 1, further comprising a plurality of particle structures.

8. The heat pipe of claim 1, wherein said particle structure is attached to said pipe by a polymer.

9. The heat pipe of claim 2, wherein said thermal conductor is a polymer.

10. The heat pipe of claim 1, wherein said particle structure has predetermined electromagnetic emission bands.

11. The heat pipe of claim 4, wherein said fractal structure has predetermined electromagnetic absorption bands.

12. The heat pipe of claim 4, wherein said fractal structure has predetermined electromagnetic emission bands.

13. The heat pipe of claim 4, further comprising a thermal conductor between said pipe and said fractal structure.

14. The heat pipe of claim 4, further comprising:
a wick; and
a liquid for transferring heat from one end of said pipe to another end of said pipe.

15. A method for transferring heat from a source to a sink, comprising the steps of:
providing a pipe having:
a plurality of particle structures thereon;
a thermally conductive layer between said plurality of particle structures;
a wick; and
a liquid for transferring heat;
exposing a first end of said pipe to said heat source; and
exposing a second end of said pipe to said heat sink.

16. The heat pipe of claim 1, wherein particles structures are on the exterior surface of each end of said pipe, and wherein one end is adapted to absorb electromagnetic radiation in one range of wavelengths, and the other end is adapted to emit electromagnetic radiation in another range of wavelengths.

17. A window material comprising:
a transparent material; and
a plurality of particle structures therein having preselected electromagnetic absorption bands.

18. The window material of claim 17, wherein said particle structures comprise fractal aggregates.

19. The window material of claim 18, wherein said particle structures comprise silver or gold fractal aggregates.

20. The window material of claim 17, wherein said particle structures are on a surface of said transparent material.

21. The window material of claim 20, further comprising a matrix adhering said particles to said transparent material.

22. The window material of claim 20, wherein said particles comprise silver fractal aggregates or gold aggregates.

23. The window material of claim 21, wherein said matrix is soluble.

24. The window material of claim 21, wherein said matrix is insoluble.

25. The window material of claim 20, wherein said particle structures are adhered to said transparent material by chemical attachment.

26. The window material of claim 24, wherein said particle structures are attached to said transparent material using a silane.

27. The window material of claim 20, wherein said particles are on said surface and are in the form of a colloidal solution.

28. A window material, comprising:
a transparent material; and
silver fractal aggregates thereon.

29. A window material, comprising:
a transparent material; and
gold fractal aggregates thereon.

30. The window material of claim 28, wherein said silver fractal aggregates are adhered to said transparent material using a matrix.

31. The window material of claim 30, wherein said matrix is soluble in a solvent selected from the group consisting of water, alcohol and ammonia.

32. The window material of claim 28, wherein said silver fractal aggregates are adhered to said transparent material by chemical attachment.

33. The window material of claim 32, wherein said chemical attachment is by way of a silane.

34. The window material of claim 29, wherein said gold fractal aggregates are adhered to said transparent material using a matrix.

35. The window material of claim 34, wherein said matrix is soluble.

36. The window material of claim 34, wherein said gold fractal aggregates are adhered to said transparent material by chemical attachment.

37. The window material of claim 36, wherein said chemical attachment is by way of a silane.

38. The window material of claim 20, wherein said particle structures are on an interior surface of said transparent material.

39. The window material of claim 17, further comprising a dye.

40. The window material of claim 17, further comprising a polarizing material.

41. A method for manufacturing a window material, comprising the steps of:

providing a piece of window material; and

providing a plurality of particle structures thereon, wherein said particle structures have a radiation absorptivity in the wavelengths of about 250 nm to about 850 nm.

42. The method of claim 41, wherein said window material is selected from the group consisting of glasses, plastics and quartz.

43. The method of claim 41, wherein said particle structures comprise fractal aggregates.

44. The method of claim 41, wherein said particle structures comprise gold or silver.

45. The method of claim 41, wherein said particle structures are embedded within said window material.

46. A method for manufacturing a window material, comprising the steps of:

providing a first layer of window material;

applying to said first layer a matrix layer comprising particle structures therein; and

providing a second layer of window material on said matrix layer.

47. The method of claim 46, wherein said first and second layers of window material are independently selected from the group consisting of glasses, quartz and plastics.

48. The method of claim 46, wherein said particle structures comprise fractal aggregates.

49. The method of claim 46, wherein said particle structures comprise silver or gold.

50. A heat pipe comprising:

a pipe having first and second ends; and

means for selectively absorbing electromagnetic radiation at said first end and emitting electromagnetic radiation from said second end.

51. A window material comprising:

a piece of transparent material; and

means for selectively absorbing electromagnetic radiation associated with said piece of transparent material.

52. A window covering, comprising:

a sheet of polymer material;

a plurality of particle structures associated with said sheet; and

an adhesive backing.

53. The window covering of claim 52, further comprising a release liner.

54. The window covering of claim 52, further comprising a dye.

55. The window covering of claim 52, further comprising a polarizing material.

56. The window covering of claim 52, wherein said particle structures comprise fractal aggregates.

57. The window covering of claim 56, wherein said fractal aggregates comprise gold or silver particles.

58. A window covering, comprising:

a polymer sheet;

a plurality of particle structures thereon; and

means for adhering said sheet to said window.

59. A window covering, comprising:

a polymer sheet;

means for selectively absorbing electromagnetic radiation associated with said polymer sheet; and

means for adhering said sheet to said window.

60. A device for optical detection of an electromagnetic signal, comprising:

an optically transmissive surface; and

a plurality of particle structures associated with said optically transmissive surface, wherein said particle structures selectively absorb electromagnetic radiation.

61. The device of claim 60, wherein said optically transmissive surface is selected from the group comprising glass, quartz or plastic.

62. The device of claim 60, wherein said particle structures comprise fractal aggregates.

63. The device of claim 62, wherein said fractal aggregates comprise silver or gold.

64. The window material of claim 26, wherein said silane is diphenylsilanediol.

65. The window material of claim 30, wherein said matrix is starch.